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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,073	11/25/2003	Don M. Coates	S-100,587	8620
35068	7590	06/30/2005	EXAMINER	
UNIVERSITY OF CALIFORNIA			AU, SCOTT D	
LOS ALAMOS NATIONAL LABORATORY				
P.O. BOX 1663, MS A187			ART UNIT	
LOS ALAMOS, NM 87545			PAPER NUMBER	
			2635	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/723,073	Applicant(s) COATES ET AL.	
	Examiner Scott Au	Art Unit 2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is in response to applicant's response to an Amendment, which is filed April 13, 2005.

An amendment to the claims 1-18 have been entered and made of record in the Application of Coates et al. for an "Identification coding schemes for modulated reflectance system" filed November 25, 2003.

Claims 1,3-5, 7 and 8-18 are pending.

Claims 2 and 6 are cancelled.

Response to Arguments

Applicant's arguments with respect to claims 1,3-5, 7 and 8-18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3,5,7,9-10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925).

Referring to claim 1, Lee, Jr. et al. disclose an identifying coding apparatus employing modulated reflectance technology comprising:

- a base station (80) (i.e. interrogator system) emitting a RF signal;
- a tag (18) (i.e. transponder), located remotely from said base station (80) (i.e. interrogator system), consisting essentially of:
 - a substrate (12) (i.e. transponder substrate);
 - at least one antenna (36) (i.e. antenna);
 - a network of passive components (i.e. see Figure 3) formed onto said substrate is connected to said antenna (36) (i.e. antenna); wherein said network is configured to reflect back to said base station the RF signal modulated to be indicative of characteristics related to said tag (col. 5 line 16 to col. 6 line 56 and col. 7 lines 26-61).

However, Lee, Jr. et al. did not explicitly disclose said passive components selected from the group consisting of resistors, inductors, capacitors, and connecting conductors formed by printing said passive components onto said substrate.

In the same field of endeavor of passive communication system, Proctor et al. disclose said passive components selected from the group consisting of resistors (R1,R2), capacitors (C1,C2,C3), and connecting conductors formed by printing said passive components onto said substrate (col. 5 line 30 to col. 6 line 15).

One ordinary skill in the art understands that passive components of Proctor et al. is desirable in the communication device of Lee, Jr. et al. because both Lee, Jr. et al. and Proctor et al. disclose passive RF transponders backscatter the signal to the

interrogator (i.e. see Abstract of Lee, Jr. et al. and Proctor et al.). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include passive components in a communication device of Proctor et al. in the passive communication device of Lee, Jr. et al. with the motivation for doing so would allow the signal to reflect back to the interrogation.

Referring to claim 3, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, Lee, Jr. et al. disclose wherein said tag (18) (i.e. transponder) is configured as a label to be applied to an item (i.e. tire) of manufacture (i.e. see Figure 1-2 and 6).

Referring to claim 5, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, it is obvious that Lee, Jr. et al. disclose wherein said substrate is flexible.

Referring to claim 7, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, Lee, Jr. et al. disclose wherein said tag (18) (i.e. transponder) is configured as a label to be applied to an item (i.e. tire) of manufacture (i.e. see Figure 1-2 and 6).

Referring to claim 9, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, Lee, Jr. et al. disclose wherein said network

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is configured to enable said reflected modulated signal to determine the location of the tag (col. 3 lines 45-50) of each tire.

Referring to claim 10, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, Lee, Jr. et al. disclose wherein said network is configured to enable said reflected modulated signal to identify an entity to which said tag is associated (col. 3 lines 5-13).

Referring to claim 15, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 1, Lee, Jr. et al. disclose wherein said network is configured to obtain a binary code in said modulated reflected signal that identifies the particular user of the tag (col. 5 lines 16-25).

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) as applied to claim 3 above, and in further view of Magiawala et al. (US# 6,278,361).

Referring to claim 4, Lee, Jr. et al. in view of Proctor et al. disclose the apparatus of claim 3. Lee, Jr. et al. disclose wherein said label is situated inside a pneumatic tire, and contains a pressure sensor, a temperature sensor (col. 3 lines 1-25). However, Lee, Jr. et al. in view of Proctor et al. did not explicitly disclose a tire tread wear sensor.

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In the same field of endeavor tire monitoring system, Magiawala et al. disclose a tire tread wear sensor (col. 4 lines 27-39) process by the microprocessor 14.

One of ordinary skill in the art understands that tire tread wear sensor of Magiawala et al. is desirable in the tire monitoring system of Lee, Jr. et al. in view of Proctor et al. because both Magiawala et al. and Lee, Jr. et al. suggest monitoring system applied to tire condition. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include tire tread wear sensor of Magiawala et al. in the tire monitoring system of Lee, Jr. et al. in view of Proctor et al. with the motivation for doing so would allow the vehicle to be driven safely.

Referring to claim 8, Lee, Jr. et al. in view of Proctor et al. and Pollack et al. disclose an apparatus in claim 5, claim 8 is equivalent to that of claim 4 addressed above, incorporated herein. Therefore, claim 8 is rejected for same reasons given with respected to claim 4.

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) as applied to claim 1 above, and in further view of Chomet et al. (US# 3,624,631).

Referring to claims 11-12, Lee, Jr. et al. in view of Proctor et al. disclose the apparatus of claim 1. However, Lee, Jr. et al. in view of Proctor et al did not explicitly disclose further comprising means for disabling operation of said tag.

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In the same field of endeavor of Rf device, Chomet et al. disclose means for disabling operation of said tag (col. 2 lines 1-25) when the opened circuit exposed to a radio frequency above a pre-selected level.

One ordinary skill in the art understands that fusible link of Chomet et al. is desirable in the transponder communication system of Lee, Jr. et al. in view of Proctor et al because both Lee, Jr. et al. and Proctor disclose identification passive devices backscatter the return signal to the interrogator and Chomet et al. disclose Rf identification passive tag or transponder devices attached to objects. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include fusible link of Chomet et al. in the transponder device of Lee, Jr. et al. in view of Proctor et al. with the motivation for doing so would allow the tag or transponder to deactivate.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) and Chomet et al. (US# 3,624,631) as applied to claim 11 above, and in further view of Wanted (US# 6,342,830).

Referring to claim 13, Lee, Jr. et al. in view of Proctor et al. and Chomet et al. disclose the apparatus of claim 11. However, Lee, Jr. et al. in view of Proctor et al. and Chomet et al. did not explicitly disclose wherein said means for disabling comprises breaking apart said tag.

In the same field of endeavor of tag system, Wanted et al. disclose means for disabling comprises breaking apart said tag (col. 5 lines 33-40).

One ordinary skill in the art understands that disabling comprises breaking apart said tag of Wanted et al. is desirable in the transponder system of Lee, Jr. et al. in view of Proctor et al. and Chomet et al. because Chomet et al. suggest disabling the tag by having the fusible link which is opened allowing the circuit exposes to radio frequency above the pre-selected level (col. 2 lines 1-15) and Wanted et al. suggest disabling the tag by breaking apart the tag (col. 5 lines 33-40). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include disabling function of a tag of Wanted et al. in the transponder system of Lee, Jr. et al. in view of Proctor et al. and Chomet et al. with the motivation for doing so would allow transponder to become disabled.

Referring to claim 14, Walsh disclose the apparatus of claim 1, claim 14 is equivalent to that of claim 13 addressed above, incorporated herein. Therefore, claim 14 is rejected for same reasons given with respected to claim 13.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) as applied to claim 15 above, and in further view of Baldwin et al. (US# 4,075,632).

Referring to claim 16, Lee, Jr. et al. in view of Proctor et al. disclose the identifying coding apparatus as described in claim 15. However, Lee, Jr. et al. in view of Proctor et al. did not explicitly disclose wherein said at least one antenna comprises two antennas, a first of said two antennas being out of phase with a second of said two antennas to induce said binary code in said modulated reflected signal.

In the same field of endeavor of transponder communication system, Baldwin et al. disclose ways to vary phase of the returned signal (col. 6 lines 13-30) to the interrogator.

One ordinary skill in the art understands that ways to vary phase of the returned signal of Baldwin et al. is desirable in the communication system of Lee, Jr. et al. in view of Proctor et al. because Lee, Jr. et al. disclose transponders in the vehicle tires for monitoring and identification (col. 1 lines 28-44) and Baldwin et al. also suggest the used of transponders in the monitoring and vehicle's identification environment (col. 1 lines 19-35). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include ways to vary phase of the returned signal of Baldwin et al. in the communication system of Lee, Jr. et al. in view of Proctor et al. with the motivation for doing so would allow the transponders to produce a reflected carrier with superimposed information which can be extracted at the interrogator.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) as applied to claim 15 above, and in further view of Slaght (US# 3,321,756).

Referring to claim 17, Lee, Jr. et al. in view of Proctor et al. disclose the apparatus of claim 15 above. However, Lee, Jr. et al. in view of Proctor et al. did not explicitly disclose wherein said network includes time-delay circuits comprising combinations of inductances and capacitances to induce said binary code in said modulated reflected signal.

In the same field of endeavor of tag communication system, Slaght discloses wherein said network includes time-delay circuits comprising combinations of inductances and capacitances to induce said binary code in said modulated reflected signal (col. 5 lines 59-68) respecting to the interrogation pulse.

One ordinary skill in the art understand that time delay circuit of Slaght is desirable in the communication system of Lee, Jr. et al. in view of Proctor et al. because both Lee, Jr. et al. and Slaght disclose tags are used in identification environment (i.e. Lee, Jr. et al., col. 1 lines 28-45 and Slaght, col. 1 lines 10-32). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the time-delay circuits comprising combinations of inductances of Slaght in the communication system of Lee, Jr. et al. in view of Proctor et al. because both Baldwin et al. and Slaght with the motivation for doing so would allow the

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transponder circuit to produce said pulse delayed in time with respect to said interrogation pulse.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Jr. et al. (US# 5,731,754) in view of Proctor et al. (US# 6,054,925) as applied to claim 15 above, and in further view of Hirata et al. (US# 5,247,305).

Referring to claim 18, Lee, Jr. et al. in view of Proctor et al. disclose the apparatus of claim 15 above. However, Lee, Jr. et al. in view of Proctor et al. did not explicitly disclose wherein said network includes varying impedance connected to said at least one antenna to induce said binary code in said modulated reflected signal.

In the same field of endeavor of tag communication system, Hirata et al. disclose signal results from varying impedances connected to said at least one antenna (i.e. Abstract).

One ordinary skill in the art understands that signal results from varying impedances connected to said at least one antenna of Hirata et al. is desirable in the communication system of Lee, Jr. et al. in view of Proctor et al. because both Lee, Jr. et al. and Hirata et al. suggest tag attached to object monitoring by the interrogator (Lee, Jr. et al., col. 1 lines 28-45 and Hirata et al., col. 3 lines 30-45). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include signal results from varying impedances connected to said at least one antenna of Hirata et al. in the communication system of Lee, Jr. et al. in view of Proctor

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et al. with the motivation for doing so would generate the identification information and for feeding the reply signal to the antenna.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brown (US# 6,591,671) discloses a monitoring pneumatic tire conditions.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Au whose telephone number is (571) 272-3063.

The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (571) 272-3068. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306.

**MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**

A handwritten signature in black ink, appearing to read "Michael Horabik", written in a cursive style.